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中国弧翅卷蛾属研究及新种记述

（鳞翅目:卷蛾科）

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弧翅卷蛾属（*Croesia* Hübner, 1758）是卷蛾科（Tortricidae）卷蛾族（Tortricini）中的一个较小的属。全世界已知27种，其中除分布在北美3种，欧洲1种外，其余23种都分布在亚洲。它们当中有9种在我国有分布记录。

根据作者收集到的国内标本加以整理，鉴定出已知9种中的6种，另外发现5个新种（长度单位为毫米），总计我国弧翅卷蛾属种类已达14种。它们是:

1. 溲疏弧翅卷蛾 *Croesia askoldana* (Christoph, 1881)（图版 I: 3, 4, 图1: 16, 图2: 33）

分布: 黑龙江岱岭、吉林省长白山;苏联、日本。

寄主: 溲疏 *Deutzia scabra* Thenb.

2. 椴弧翅卷蛾 *Croesia aurichalcana* (Bremer, 1864)（图版I: 1, 2, 图1: 19, 图2: 31）

分布: 黑龙江帽儿山;苏联、日本。

寄主: 椴 *Tilia tuan* Szysz.

3. 双色弧翅卷蛾 *Croesia bicolor* Kuznetsov, 1964（图版 I:7, 图1: 17, 图2: 30）

分布: 黑龙江岱岭、五营、山西绵山*、四川青城山;苏联。

寄主: 杨 *Populus* spp., 暖木条子 *Viburnum burejaeticum* Regel and Herder.

4. 栎弧翅卷蛾 *Croesia conchyloides* (Walsingham, 1900)

分布: 山西绵山*、湖北宜昌*、长阳*;苏联、日本。

寄主: 栎 *Quercus* spp.

5. 锥尾弧翅卷蛾 *Croesia ferox* Razowski, 1975

分布: 云南丽江*。

6. 赭色弧翅卷蛾 *Croesia imitatrix* Razowski, 1975

分布: 浙江西天目山*。

7. 中国弧翅卷蛾 *Croesia sinica* Razowski, 1966

分布: 浙江天目山*、四川青城山。

本文于1985年4月收到。
本文成虫图由本所于延芬同志拍摄，特此致谢。
* 文献记载，下同。

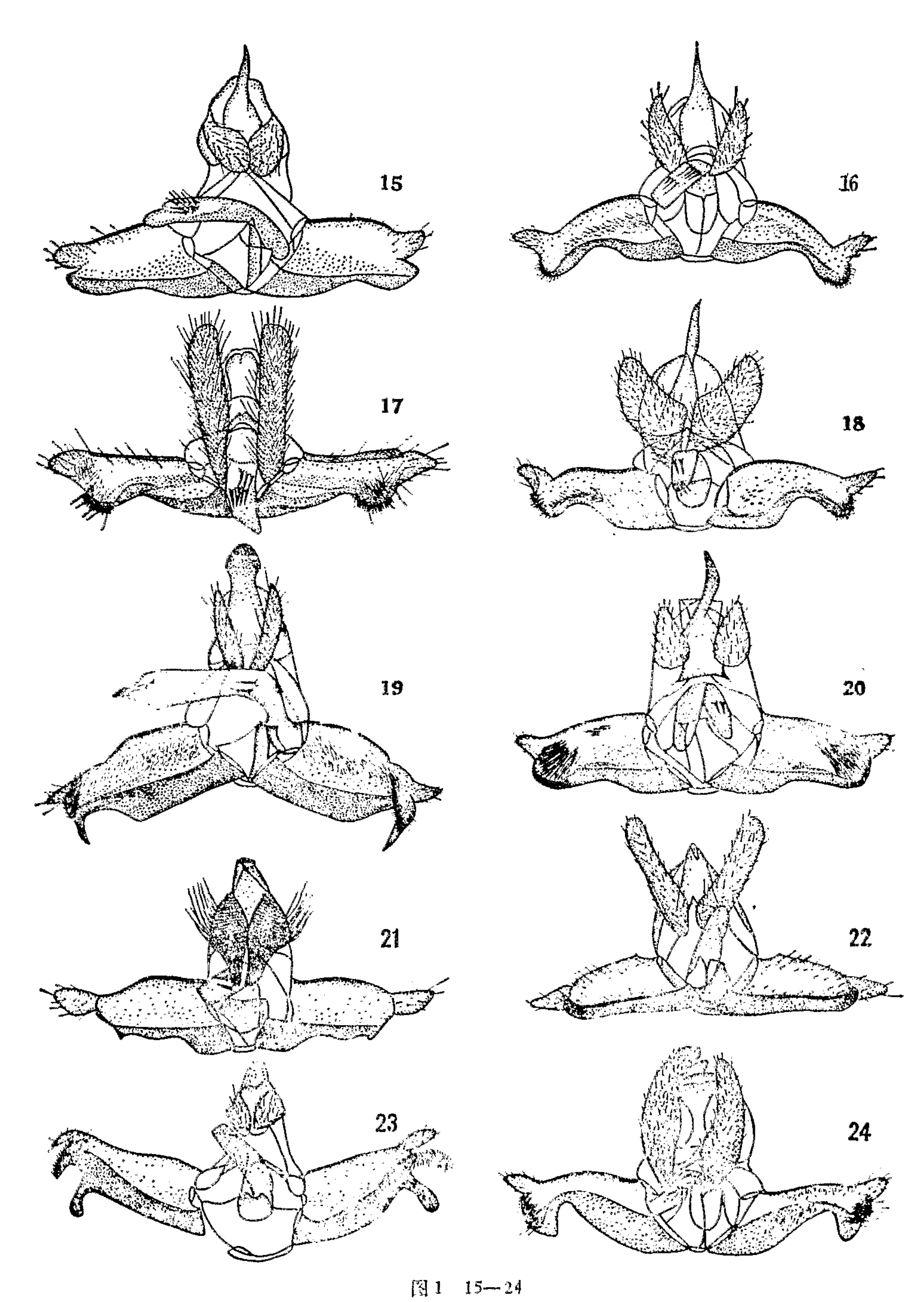


图1 15—24

15.中国弧翅卷蛾 *Croesia sinica* Razowski, 16.渡疏弧翅卷蛾 *Croesia askoldana* (Christoph), 17.双色弧翅卷蛾 *Croesia bicolor* Kuz., 18.小弧翅卷蛾 *Croesia stibiana* (Snellen), 19.椴弧翅卷蛾 *Croesia aurichaleana* (Bremer), 20.异形弧翅卷蛾 *Croesia dispar* sp. nov., 21.褐带弧翅卷蛾 *Croesia leechi*(Walsingham), 22.蔷薇弧翅卷蛾 *Croesia rosellra* sp. nov. 23.黄色弧翅卷蛾 *Croeesia lutescentis* sp. nov. 24.褐点弧翅卷蛾 *Croesia fuscopunctata* sp. nov.

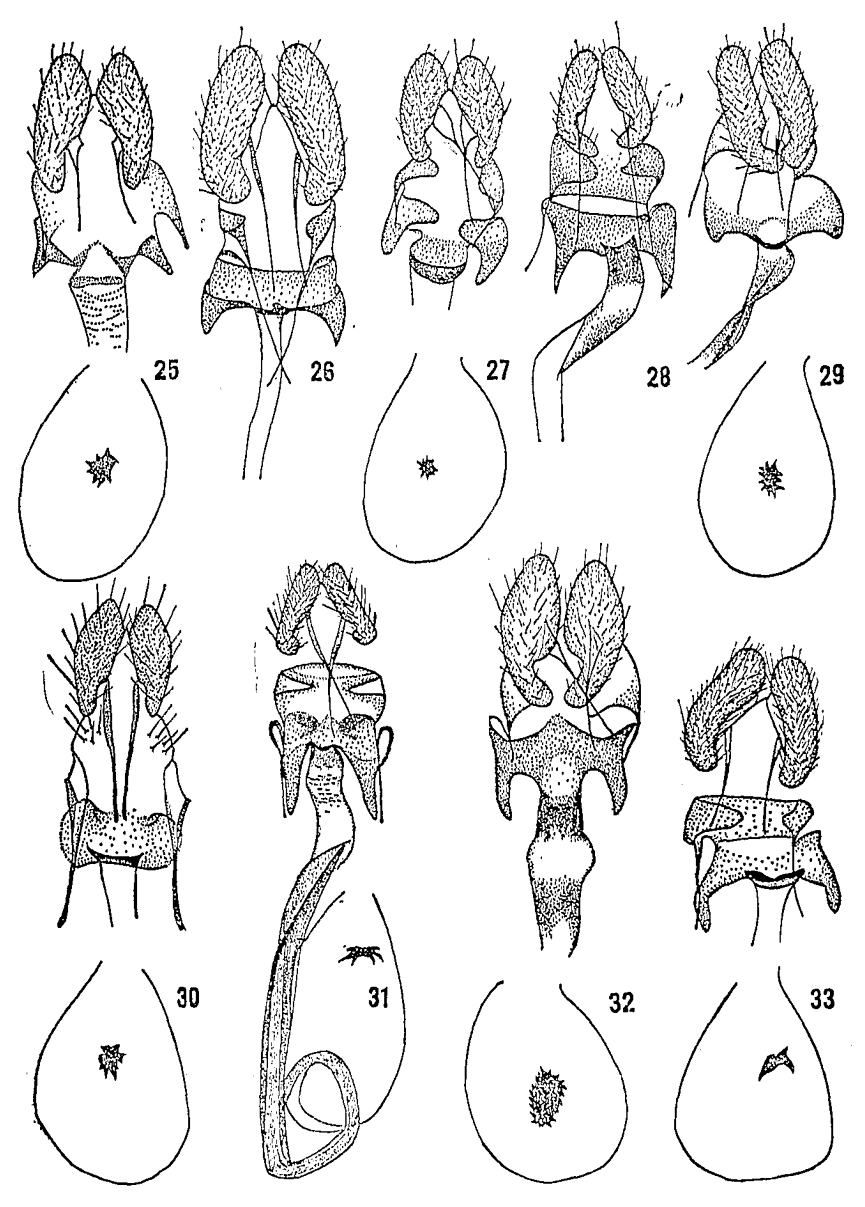


图 2　25—33

25.褐带弧翅卷蛾 *Croesia leechi* (Walsingham), 26.棕黄弧翅卷蛾 *Croesia helvolaris* sp. nov., 27.黄色弧翅卷蛾 *Croesia lutescentis* sp. nov., 28.异形弧翅卷蛾 *Croesia dispar* sp. nov., 29.小弧翅卷蛾 *Croesia stibiana* (Snellen), 30.双色弧翅卷蛾 *Croesia bicolor* Kuzhetsov, 31.椴弧翅卷蛾 *Croesia aurichalcana* (Bremer), 32.中国弧翅卷蛾 *Croesia sinica* Razowski, 33.溲疏弧翅卷蛾 *Croesia askoldana* (Christoph)

8.小弧翅卷蛾 *Croesia stibiana* (Snellen, 1883)(图版 I: 6, 图 1: 18, 图 2: 29)

分布：黑龙江岱岭、四川卧龙；苏联、日本。

9.褐带弧翅卷蛾 *Croesia leechi* (Walsingham, 1900)(图版 I:5, 图 1: 21, 图 2: 25)

分布：黑龙江镜泊湖、辽宁丹东、山西绵山*、陕西黄龙、湖北神农架；苏联、朝鲜、日

本。

10. 褐点弧翅卷蛾 *Croesia fuscopunctata* 新种（图版 II:12，图 1：24）

分布：福建三港。

11. 黄色弧翅卷蛾 *Croesia lutescentis* 新种（图版 II:13，图 1：23）

分布：湖北神农架。

12. 异形弧翅卷蛾 *Croesia dispar* 新种（图版 II:9，10，图 1：20，图 2：28）

分布：四川卧龙。

13. 棕黄弧翅卷蛾 *Croesia helvolaris* 新种（图版 II:11，图 2：26）

分布：福建三港。

14. 蔷薇弧翅卷蛾 *Croesia rosella* 新种（图版 II:14，图 1：22）

分布：黑龙江五营。

属　　征

下唇须长为复眼直径的 1.5—2.5 倍。基节小；中节长，末端膨大；末节小，部分隐藏在中节末端的长鳞片中。前翅前缘基部弯曲；顶角明显，但不很尖。翅表面颜色比较鲜艳，常有折光的斑纹和竖立的鳞片簇。各脉彼此分离，无共柄现象，R_1 脉出自中室的中点以前，R_1-R_2 脉基部间距离不短于 R_2-R_3 脉，R_5 脉止于顶角或外缘。Cu_2 脉基部出自 R_1—R_2 脉之间。后翅 R_s 脉基部 1/3 与 M_1 脉接近，M_2 脉远离 M_3 脉，M_3 脉基部与 Cu_1 脉接近或同出一点。雄性外生殖器的爪形突退化，背兜延长，颚形突有时比较发达，尾突发达。抱器瓣长，抱器背基突几丁质化，抱器腹长，有臂（brachiola）。阳茎短，阳茎针多枚。雌性外生殖器的产卵瓣有两种类型：一种产卵瓣小，末几节套叠，表皮突长；另一种产卵瓣大、短而宽，表皮突短。囊导管有时几丁质化或具有刻点，囊突呈齿状或缺少。

种　检　索　表

1. 前翅底色灰褐……2.
   前翅底色淡黄或黄色……5.
2. 前翅颜色一致……3.
   前翅由两色组成……4.
3. 产卵瓣小，末几节套叠，表皮突长……锥尾弧翅卷蛾 ***C. ferox***
   产卵瓣大，末几节不套叠，表皮突短……赭色弧翅卷蛾 ***C. imitatrix***
4. 前翅基半部黑褐，端半部棕褐……双色弧翅卷蛾 ***C. bicolor***
   前翅基半部棕褐，端半部灰褐……异形弧翅卷蛾 ***C. dispar*** 新种
5. 雄性外生殖器有发达的颚形突……6.
   雄性外生殖器无发达的颚形突……9.
6. 颚形突末端圆钝，囊导管强烈几丁质化……椴弧翅卷蛾 ***C. aurichalcana***
   颚形突末端尖，囊导管非或局部几丁质化……7.
7. 前翅无明显斑纹……小弧翅卷蛾 ***C. stibiana***
   前翅有明显斑纹……8.
8. 斑纹中夹杂有银色斑点……溲疏弧翅卷蛾 ***C. askoldana***
   斑纹中无银色斑点……中国弧翅卷蛾 ***C. sinica***
9. 前翅淡黄或棕黄色，无花斑……10.
   前翅有花斑……11.

10. 前翅淡黄色，翅长 6mm、翅展 13mm. ……黄色弧翅卷蛾 *C. lutescentis* 新种
　前翅棕黄色，翅长 8mm、翅展 18mm ……棕黄弧翅卷蛾 *C. helvolaris* 新种
11. 前翅表面有许多由白色、黑色鳞片组成的分散竖鳞丛……褐点弧翅卷蛾 *C. fuscopunctata* 新种
前翅表面无竖鳞丛 ……12.
12. 前翅花斑中无银色鳞片……栎弧翅卷蛾 *C. conchyloides*
　前翅花斑中夹杂有银色鳞片 ……13.
13. 前翅淡黄色，翅长 7—9mm，翅展 15—19mm. ……褐带弧翅卷蛾 *C. leechi*
　前翅深桔黄色，翅长 6mm.，翅展 13mm. ……蔷薇弧翅卷蛾 *C. rosella* 新种

新 种 记 述

异形弧翅卷蛾 *Croesia dispar* 新种

雌雄异形。翅展 ♂15，♀17。头顶有灰白色竖鳞。下唇须白褐色，向前伸。触角灰褐色。雌虫前翅由灰褐、桔黄和银白三色鳞片组成，从前缘 2/5 开始有一银白色弧形线伸向臀角，将前翅划分为两部：端部灰褐色；基部桔黄色，但在基斑部位、中室肘脉以上亦呈灰褐色，其大小逐个体而异。中室末端下方，有一撮桔黄色鳞片丛。后翅灰褐色。雄虫外形与雌虫基本相似，主要区别表现在前翅基半部没有桔黄色，而全部代之以银白色鳞片。雄性外生殖器的颚形突细长而略有弯曲。尾突呈小圆块状。抱器瓣长，抱器腹凹陷不深，端部有小三角形短臂。阳茎针两枚。雌性外生殖器的产卵瓣细长，表皮突细，后阴片表面不光滑，前突尖细，交配孔宽，导管端片几丁质化，无囊突。

正模♀　四川卧龙，1900 米，1980. VIII. 16，刘友樵。

配模♂　副模 6♂♂ 25♀♀ 采集地点、海拔、日期及采集人同正模。

本种雄性外生殖器与中国弧翅卷蛾 *C. sinica* 相近似，但本种阳茎针有 2 枚而后者有 10 枚。成虫区别更为明显。它的雌雄异形为本属种类所罕见。

褐点弧翅卷蛾 *Croesia fuscopunctata* 新种

翅展 15，头顶有白色竖鳞。下唇须银白色，第二节膨大呈球状。触角基部白色，鞭节褐色。前翅顶角圆，底色淡黄，有许多分散的褐色斑点，中间夹杂有许多黑白色鳞片组成的竖鳞丛。后翅灰褐色。雄性外生殖器的颚形突退化；尾突特别发达，长过背兜的高度，呈肥大长条状。抱器瓣长，抱器腹近端部凹陷深，端部有圆锥形短臂。阳茎针 7 枚。

正模♂　福建三港，1982. VII. 2，江凡。

本种雄性外生殖器与双色弧翅卷蛾 *C. bicolor* 相近似，但本种尾突呈肥大长条状，两头细、中间粗，不像后者那样由上至下、逐渐稍有变细。本种前翅黄色，有褐斑点，而后者前翅基半部深褐色，端半部棕色。

黄色弧翅卷蛾 *Croesia lutescentis* 新种

翅展 13，头顶有淡黄色竖鳞。下唇须背面和内侧淡黄色，外侧褐色。触角基节、柄节淡黄色，鞭节褐色。前翅淡黄色，有鱼鳞状淡桔黄色细斑。后翅灰褐色。雄性外生殖器的颚形突退化；尾突呈小圆块状；抱器瓣长，抱器腹末端呈指状，背突端部扩大呈扇形，边缘密生毛刺，臂长椭圆形，基部略细；阳茎针无。雌性外生殖器的产卵瓣呈斜三角形，表皮突不长，前突尖细，交配孔周围几丁质化，囊突小、星状。

正模♂　湖北神农架，950 米，1980. VII. 4，韩寅恒。

配模♀ 同上。副模 4♂♂，1♀，同上。

本种雄性外生殖器与中国弧翅卷蛾 *C. sinica* 相近似，但无颚形突，无阳茎针，抱器腹末端有扇形背突。前翅淡黄色，有鱼鳞状淡桔黄色细斑，而后者为棕黄色，有褐色粗斑纹。

棕黄弧翅卷蛾 *Croesia helvolaris* 新种

翅展 18，头顶有淡褐黄色竖鳞。下唇须较长，末节尖出，内侧黄褐，外侧深褐。触角褐色。前翅呈长椭圆形，前缘、外缘棕黄色，后缘淡黄色。后翅灰褐色。雌性外生殖器产卵瓣长柱形，前后表皮突长，后阴片不光滑，前突短、末端尖，囊突无。交配孔周围和导管端片无几丁质化现象。

正模♀ 福建三港，1979. IX. 29，官金兴。

本种和同属其他种类的明显区别表现在体型较大，前翅上无花斑。雌性外生殖器无囊突。

蔷薇弧翅卷蛾 *Croesia rosella* 新种

翅展 13，头顶有淡黄色竖鳞。下唇须末节略向下垂，内侧黄褐，外侧褐色。触角深褐。前翅基部占前翅 1/3 淡黄色，端部占 2/3 淡黄色加棕褐斑。前缘、外缘有黑褐夹银色条带，中室基部、中部和端部外侧还各有一条长短不等的黑褐夹银色条带。后翅灰褐色。雄性外生殖器颚形突消失；尾突发达呈长条状，中间略细；抱器腹中部略有凹陷，末端圆钝，有圆锥状臂；阳茎针无。

寄主：少刺大叶蔷薇 *Rosa acicularis* Lindl. var. *Taquetii* Nakai

正模♂ 黑龙江五营，1981. VI. 9，白九维。

副模♂ 同上。

本种外形花斑与中国弧翅卷蛾 *C. sinica* 相近似，但外缘较直。雄性外生殖器无颚形突，尾突长条状，阳茎针无。

全部标本包括模式标本保存在中国科学院动物研究所昆虫标本馆。

ON THE CHINESE *CROESIA* HÜBNER (LEPIDOPTERA: TORTRICIDAE) WITH DESCRIPTIONS OF FIVE NEW SPECIES

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Croesia is a small genus of Subfamily Tortricidae, Tribe Tortricini, established by Hübner in 1825. 27 species have been recorded in the world; except 3 species in North America and one species in Europe, the rest 23 species are all distributed in Asia. Among them, 9 species are recorded in China.

We have had an opportunity of examining 11 species occurring in China, of which 5 are considered as new to science and 6 are already recorded. By adding the other 3 recorded species which we have not collected yet, the total number of Chinese *Croesia* amounts to 14.

Generic characteristics, names, distributions and a systematic key to the 14 species are given in the Chinese text. Besides, descriptions of the new forms in English is given below.

All specimens are kept in the Institute of Zoology, Academia Sinica.

Croesia dispar sp. nov.

Sex-polymorphism. Wing expanse: male 15 mm., female 17 mm. Labial palpus brownish-white, porrect. Forewing color of female compose of greyish-brown, orange yellow and silver white. A silver white curve line from 2/5 of costa towards anus which divides the wing into two parts: terminal part greyish-brown; basal part orange yellow, with upper portion greyish-brown. Forewing color of male without orange yellow, instead by silver white. Male genitalia: subscaphium slender, slightly curved; socii broad, short; valva broad with long costa; sacculus strong, broadest to 1/3, then slightly concave, rounded subterminally; brachiola fairly large; aedeagus long, slender, two capitate cornuti in vesica present; transtilla with large median projection dorsally; juxta large. Female genitalia: papillae anales broad with small anterior projections; apophyses posteriores long; apophyses anteriores short; sterigma well developed, minutely spines, with strong, elongate, pointed terminally proximal projections; ostium large; antrum heavily sclerotized; without signum.

Holotype ♀ Sichuan Province, Wolong, 1900 M; 16-VIII-1980, Liu Youqiao. Allotype ♂, paratypes 6♂♂, 25♀♀, locality, altitude, date and collector same as Holotype

This species is closely allied to *C. sinica*, but differs from the later by the number of the cornuti, adult with obvious sex-polymorphium.

Croesia fuscopunctata sp. nov.

Wing expanse 15 mm. Labial palpus silver-white, median joint enlarged posteriorly. Forewing apex rounded, ground color light yellow, with scattered brown spots and numberous black and white erect scales. Hindwing greyish-brown. Male genitalia: subscaphium reduced; socii well developed, longer than the height of the tegumen; valva long, sacculus deeply concaved subterminally; brachiola short, tapering terminad; seven short cornuti in vesica present.

Holotype ♂ Fujien Province, Sangan, 2-VII-1982, Jiang Fan.

This species is closely allied to *C. bicolor* in male genitalia, but differs from the latter in socii with the broadest portion in the middle. Forewing yellow with brownish spots, the latter with basal half dark brown and terminal half light brown.

Croesia lutescentis sp. nov.

Wing expanse 13 mm. Labial palpus with dorsal and inside light yellow, outside brown. Forewing light yellow, with scale-like light orange stripes. Hindwing greyish-brown. Male genitalia: subscaphium reduced; socii broad, short; valva long, sacculus finger-like terminally, dorsal process enlarged like a folding fan, with densely spines; brachiola ellipse; without cornuti. Female genitalia: papillae anales triangulate, apophyses anteriores slender and pointed, ostium sclerotized, corpus bursae small, stellate signum present.

Holotype ♂ Hubei Province, Shennongjia, 950 M., 4-VII-1980, Hang Ying-heng. Allotype ♀, paratypes 4♂♂, 1♀. Locality, date and collector same as holotype.

This species is closely allied to *C. sinica* but differs from the latter by the absence of subscaphium and cornuti, sacculus with folding fan-like dorsal process. Forewing light yellow with scale-like light orange stripes, the latter light brown with brown stripes.

Croesia helvolaris sp. nov.

Wing expanse 18 mm. Labial palpus long, last segment pointed, with inside yellowish-brown, outside dark brown. Forewing elongately ellipse; costa and outer margin light brown, inner margin light yellow. Hindwing greyish-brown. Female genitalia: papillae anales cylindrical; apophyses long; sterigma not smooth, with short pointed terminally proximal projections; ostium and antrum unsclerotized; without signum.

Holotype ♀ Fujian Province, Sangan, 29-IX-1979, Guan Jin-xin.

This species in this genus quite differs from other species by the presence of large body, forewing without patterns. Female genitalia without signum.

Croesia rosella sp. nov.

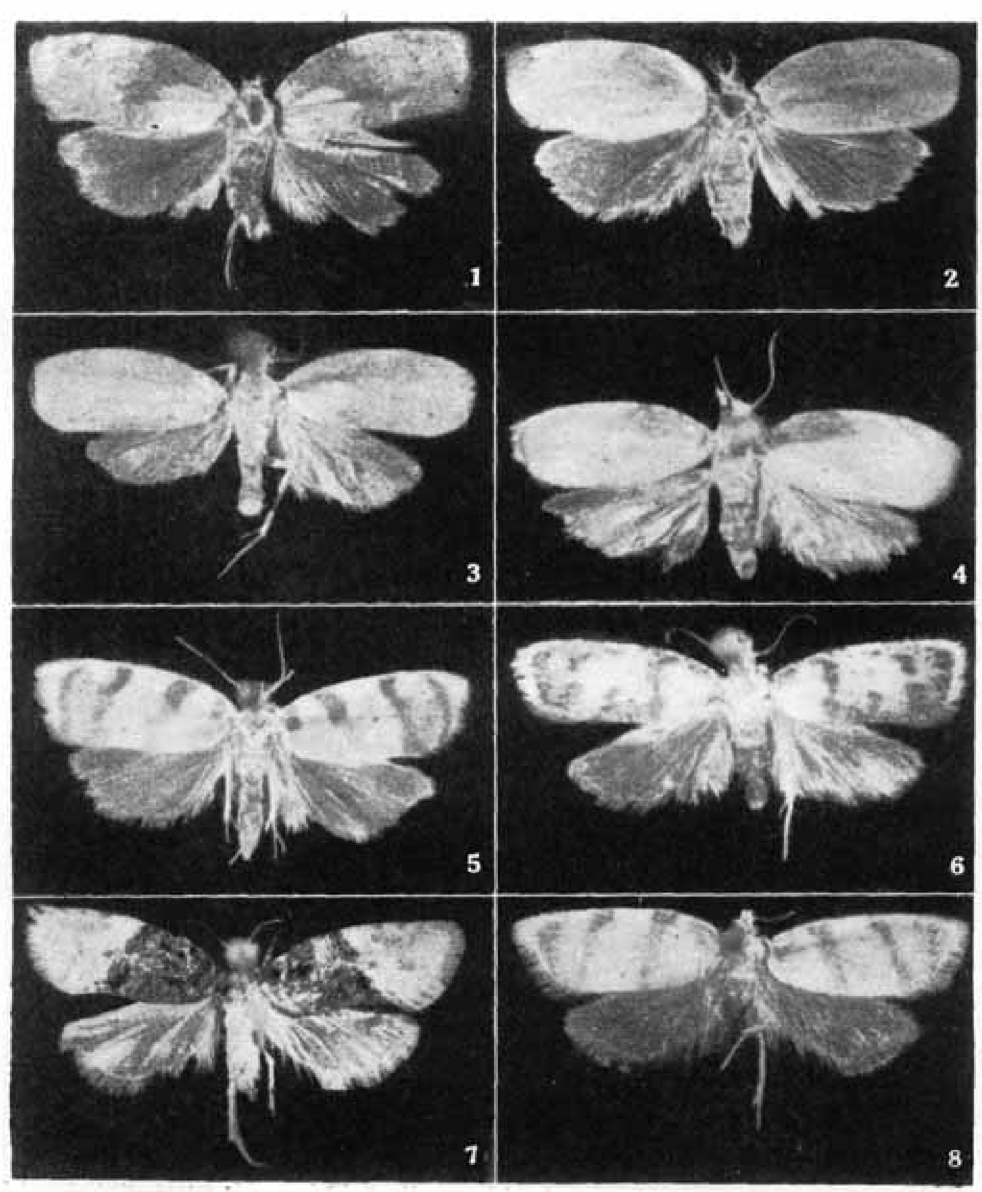
Wing expanse 13 mm. Labial palpus with last segment drooped, inside yellowish-brown, outside brown. Forewing with basal 1/3 light yellow, other 2/3 add light-brown stripes; costa and outer margin blackish-brown, with silver stripes; basal, middle and terminal of discal cell with three unequal length of blackish-brown, with silver stripes. Hindwing greyish-brown. Male genitalia without subscaphium; socii well developed, long, slightly narrow in the middle, sacculus concave in middle ventrally, rounded apically; brachiola conical; cornuti absent.

Host Plant: *Rosa acicularis* Lindl. var. *Taquetii* Nakai.

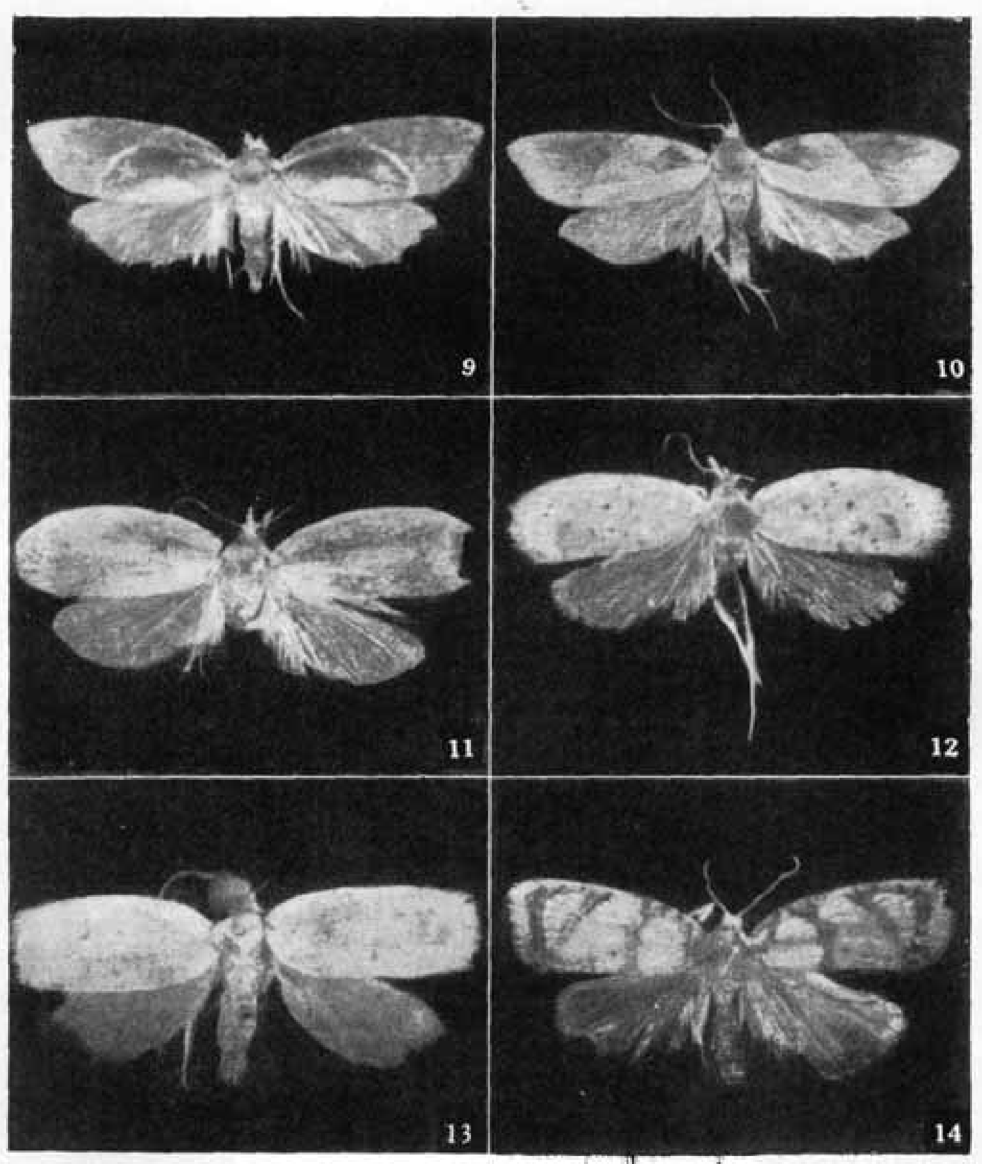
Holotype ♂ Heilungjiang Province, Wuying, 9-VI-1981. Bai Jiu-wei.

Paratype ♂ Locality, date and collector same as holotype.

This species is closely allied to *C. sinica* in general appearance, but differs from the later by the straight outer margin of forewing. Male genitalia without subscaphium; socii long; without cornuti.



1—2. 榆弧翅卷蛾 *Croesia aurichalcana* (Bremer);
3—4. 澳熟弧翅卷蛾 *Croesia askoldana* (Christoph);
5. 褐带弧翅卷蛾 Croesia leechi (Walsingham);
6. 小弧翅卷蛾 *Croesia stibiana* (Snellen);
7. 双色弧翅卷蛾 *Croesia bicolor* Kuznetzov;
8. 中国弧翅卷蛾 *Croesia sinica* Razowski



9—10.异形弧翅卷蛾 *Croesia dispar* sp. nov.
11.棕黄弧翅卷蛾 *Croesia helvolaris* sp. nov.
12.褐点弧翅卷蛾 *Croesia fuscopunctata* sp. nov
13.黄色弧翅卷蛾 *Croesia lutescentis* sp. nov.
14.蔷薇弧翅卷蛾 *Croesia rosella* sp. nov.